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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	Jim Otter
Serial No.:	09/738,591
Filed:	December 15, 2001
Group Art Unit:	1762
Examiner:	Parker, Frederick John
Title:	A METHOD MAKING A FILM WITH IMPROVED WETTABILITY PROPERTIES

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Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

Subsequent to the filing of the Notice of Appeal on January 29, 2007, Appellant hereby submits this appeal brief. The Appeal Brief fees were paid with the filing of a prior appeal brief on November 14, 2003. Any additional fees or credits may be charged or applied to Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds, P.C.

Real Party in Interest

The real party in interest is Carrier Corporation, the assignee of the entire right and interest in this Application.

Related Appeals and Interferences

There are no related appeals or interferences.

Status of Claims

Claims 1-3, 5, 7, 22, 25-27, 29-40, and 42 are pending in the application. Claims 27 and 40 are allowed. Claims 1-3, 5, 7, 22, 25, 26, 29-39, and 42 stand rejected.

Status of Amendments

There are no unentered amendments.

Summary of Claimed Subject Matter

As shown in Figure 1 of the application, this invention relates to a method for making a film for use with a heat transfer component 100. The method includes applying a plurality of polar particulates 16 to a surface 18 of a heated film 12, then embedding the plurality of polar particulates 16 into the surface 18 of the heated film 12 with a first roller 24, regulating a temperature of the roller 24 to regulate a temperature of the film 12, and then adding the film 12 to the heat transfer component 100 (page 4, line 14 to page 5, line 2). This basic method is set forth in independent claim 1.

Independent claim 1 recites:

1. A method for making a film for use with a heat transfer component comprising the steps of:

applying a plurality of polar particulates to a surface of a heated film;

then embedding the plurality of polar particulates into the surface of the heated film with a first roller;

regulating a temperature of the first roller to resist cooling of the film; and

then adding the film to the heat transfer component.

Grounds of Rejection to be Reviewed on Appeal

I. Claim 1 was rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement because the claim contained subject matter deemed by the examiner as new matter.

II. Claims 1-3, 5, 22, 26, 33-35, 37-39, and 42 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 4,848,314 to Bentley, et al. (hereafter "Bentley") in view of U.S. Patent 4,421,789 to Kaneko, et al. (hereafter "Kaneko") and further in view of U.S. Patent 2,899,288 to Barclay (hereafter "Barclay") and further in view of U.S. Patent 5,728,424 to Walling (hereafter "Walling") and U.S. Patent 3,450,585 to Takagi (hereafter "Takagi").

III. Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over Bentley, in view of Kaneko and further in view of Barclay and further in view of Walling and Takati and further in view of U.S. Patent 6,132,801 to Linford (hereafter "Linford").

Arguments

I. Rejection of Claim 1 Under §112, First Paragraph

The Examiner interprets the limitation of having the first roller "resist cooling of the film" as being new matter. The Examiner further states that to "resist cooling of the film" can only be interpreted to mean that cooling is prevented, and preventing cooling is not supported in the application. Respectfully, Appellant disagrees because the Examiner's interpretation of the term "resist cooling" is overly narrow and contrary to a broader example within the application. For example, the application [page 4, 19-20] supports broader use of the term "resist cooling" by describing that "the first smaller roller 24 is controlled to prevent the film from ***cooling too fast***" [emphasis added]. The "cooling too fast" implies that there is indeed a degree of cooling that occurs. That is, the smaller roller 24 controls the cooling and thereby "resists cooling," contrary to the Examiner's interpretation. Thus, the term "resist cooling" is supported in the application and is not new matter. Accordingly, the rejection should be reversed.

II. Rejection of Claims 1-3, 5, 22, 26, 33-35, 37-39, and 42 Under §103(a)

(a) Claim 42 Is Independently Allowable

Regarding claim 42, the Examiner contends that, given the suggestion in Walling of a roller using heat, one would have used the heated upper roller 1' and cooled lower roller 1 of Takagi in place of the rollers 40, 42 of Walling "to provide an improved method of imbedding particles." Respectfully, Applicant disagrees for the below reasons.

(i) The stated motivation that the combination would "provide an improved method of imbedding particles" is insufficient to support a *prima facie* 103 rejection. The Examiner is speculating without any sound reasoning or evidentiary basis that the proposed modification would result in the goal of improved embedding of the particles. Indeed, the rollers 1' and 1 of Takagi are not even used for embedding particles. Therefore, Takagi does not support the Examiner's speculation that using a heated upper roller would improve embedding particles. The only teaching regarding embedding particles comes from Walling, which teaches using ***heated top and bottom rollers*** (see col.5, lines 57-61). Using a cooled lower roller to embed particles would therefore apparently be contrary to the teaching in Walling of using two heated rollers to effectively bond particles to a membrane. Thus, the Examiner's speculation that using a cooled lower roller and a heated upper roller would improve embedding cannot be sustained and is insufficient to establish *prima facie* obviousness. For this reason alone, the rejection should be reversed.

(ii) Additionally, there is no motivation to combine Walling and Takagi because one of ordinary skill in the art would not even have looked to the Takagi reference to embed polar particles on the surface of a film. In Takagi, the heated upper roller 1' is used to melt synthetic resin powder that is then deposited onto the surface of the sheet. Thus, even though the upper roller 1' of Takagi is heated, it operates to spread melted resin on the sheet, not to embed particles. Therefore, even if one was looking to improve embedding of the particles in Walling, they would not expect to succeed in doing so based on Takagi because Takagi does not address the problem of embedding particles. For this additional reason, the rejection should be reversed.

(iii) Additionally, the Examiner is using impermissible hindsight to recreate Appellant's invention. Using a heated roller on the side of the film with the particles and another roller on the other side of the film to cool the film is only known through the teachings of Appellant's disclosure. The Examiner is attempting to recreate this feature of Appellant's claim by arbitrarily choosing to substitute the rollers 1', 1 of Takagi for the rollers 40, 42 of Walling without any reason to do so. The mere fact that Takagi discloses a heated roller 1' and a cooled roller 1 for some other purpose besides embedding particles does not mean that one would use the rollers 1', 1 to embed particles, and by no stretch means that using the rollers 1', 1 would "provide an improved method of imbedding particles." Therefore, it is apparent that the Examiner is using the teachings of Appellant's disclosure in hindsight to recreate the features of Appellant's claim. For this additional reason, the rejection should be reversed.

III. Rejection of Claim 7 under §103(a)

The Examiner interprets Linford as teaching applying coatings on particles to allow a more robust coating attachment in microparticle/polymer composite materials to prevent de-bonding of the particles. The Examiner then argues that it would have been obvious to modify the particles of Kaneko to include the coating of Linford to provide a stronger attachment of the particles to the base. Respectfully, Appellant disagrees because there would be no motivation to modify the particles of Kaneko with the coating of Linford, for use in the heat exchanger of Bently.

The Examiner has apparently overlooked that the function of the particles in the heat exchanger is to provide surface wettability for water removal. Contrary to this goal, the coating of Linford is hydrophobic (see col. 3, lines 53-57), not hydrophilic for the needed wettability. Moreover, the coating of Linford would completely cover and conceal the underlying particle (see col. 6, lines 6-8 describing grinding the silicon in the coating agent, which would completely coat the ground particles). Thus, modifying the polar particles of Kaneko using the coating of Linford would conceal the polar particles and thereby destroy the function of the particles to provide wettability. For this reason, one would not be motivated to combine the references as the Examiner suggests, and the rejection should be reversed.

CLOSING

For the reasons set forth above, the final rejection of the claims is improper and should be reversed. Appellant respectfully requests such an action.

Respectfully Submitted,

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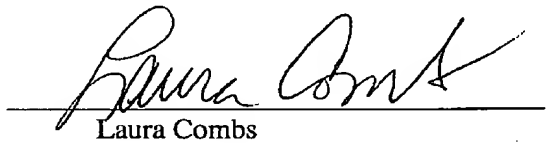
Dated: March 29, 2007

CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States patent and Trademark Office, fax number (571) 273-8300, on March 29, 2007.



Laura Combs

CLAIM APPENDIX

1. A method for making a film for use with a heat transfer component comprising the steps of:

applying a plurality of polar particulates to a surface of a heated film;

then embedding the plurality of polar particulates into the surface of the heated film with a first roller;

regulating a temperature of the first roller to resist cooling of the film; and

then adding the film to the heat transfer component.

2. The method as recited in claim 1 wherein the film is thermoplastic.

3. The method as recited in claim 1 further comprising the step of cooling the film after the step of regulating the temperature of the first roller.

5. The method as recited in claim 1 further including the step of applying an adhesive substance to the surface of the film, wherein the step of embedding the plurality of polar particulates comprises pressing the plurality of polar particulates into the adhesive substance with the first roller.

7. The method as recited in claim 1 further comprising the step of coating an outer surface of the plurality of polar particulates with a coating.

22. The method as recited in claim 1 wherein the film is one of polyolefin, polyester, polyetherketon, polyetheretherketone, polysulfone, polyethersulfone, polytetrafluoroethylene and fluorinatedhydrocarbon.

25. The method as recited in claim 1 wherein the plurality of polar particulates is a germicide.

26. The method as recited in claim 1 further including the step of employing the plurality of polar particles to increase a surface energy of the film.

27. A method for making a film for use with a heat transfer component comprising the steps of:
coating an outer surface of a plurality of polar particulates with maleic anhydride;
applying the plurality of polar particulates to the film;
adhering the plurality of polar particulates to the film; and
adding the film to the heat transfer component.

29. The method as recited in claim 1 wherein the plurality of polar particulates are alumina.

30. The method as recited in claim 1 wherein the plurality of polar particulates are zirconia.

31. The method as recited in claim 1, wherein the plurality of polar particulates are wollastonite.

32. The method as recited in claim 1, wherein the plurality of polar particulates are talc.

33. The method as recited in claim 1 further including the step of using the heat transfer component to exchange heat between a first fluid and a second fluid.

34. The method as recited in claim 33 wherein the step of using the heat transfer component forms a liquid condensate.

35. The method as recited in claim 1 wherein the heat transfer component is a condensing heat exchanger.

36. The method as recited in claim 1 wherein the plurality of particulates are titanium dioxide.

37. The method as recited in claim 1 wherein the plurality of particles are silica.

38. The method as recited in claim 1 further including the step of extruding the heated film.

39. The method as recited in claim 42 further including the step of urging the film against the second roller with a third roller to cool the film.

40. A method for making a film for use with a heat transfer component comprising the steps of:

applying a plurality of polar particulates to a surface of a heated film;

then embedding the plurality of polar particulates into the surface of the heated film with a roller;

regulating a temperature of the roller to regulate a temperature of the film;

then adding the film to the heat transfer component; and

coating an outer surface of the plurality of polar particulates with a coating, wherein the film is made of polyester and the coating is maleic anhydride.

42. The method as recited in claim 1, further including the steps of passing the heated film with said plurality of polar particles between the first roller and a second roller such that the surface faces in a direction toward the first roller, and regulating a temperature of the second roller to cool the film.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.